1999 MIS RESOURCE GUIDE

EMS AGENCY: **Alameda County EMS**

CONTACT(S):   Colleen Campbell, ISS
NAMES, TITLES&PHONES, EMAIL   1000 Broadway, Suite 5024
ADDRESS & FAX   Oakland, CA 94607
                                                            Phone: (510) 628-5079
                                                            Fax: (510) 465-5624
                                                            CCAMPBEL@PH.MAIL.CO.ALAMEDA.CA.US

OVERVIEW: Trauma Registry database - approximately 400 data points per patient. Includes date from patient care reports which are entered at each trauma center along with E-Codes, Injury details, ISS, DX, TX, and Procedures, Length of stay, complications, Phase specific information (ED, ICU, etc.) And ICD-9 codes. Used to track care of trauma patients from the field through discharge from the hospital.

HOW DEVELOPED:(IN-HOUSE, PROPRIETARY, FUNDING SOURCE) In cooperation with LANCET Technology. Funding through the trauma system.

DATE IMPLEMENTED: August 1991

DATE LAST UPDATED: Monthly

DATA COLLECTION METHOD(S): Information from the PCR's (patient care reports), and the patient charts is abstracted and input at the Trauma Centers. I receiver monthly exports of data from each of the three Trauma Centers in Alameda.
Scene death information on trauma patients is abstracted under my supervision at the EMS office and input.
Information on deaths of trauma patients at receiving hospitals is abstracted under my supervision and input at the EMS office.

DATABASE PLATFORM: Windows

SOFTWARE TYPE:
VENDOR NAME: Lancet Technology

LINKED DATABASE?: (PREHOSPITAL, TRAUMA, BASE HOSPITAL, TRAFFIC RECORDS OR OTHER) No

PARTICIPATING IN STATE AGGREGATE DATA COLLECTION?(IF NOT, WHEN ANTICIPATED?) Not yet

DATABASE UTILIZATION:
Tracking trauma care in Alameda County
QA
Injury Prevention

FOR THOSE IN THE DEVELOPMENT STAGE, DATE PLANNED TO BE FUNCTIONAL:
Alameda County EMS is presently working on an organized plan to design and implement an integrated, comprehensive data management system which will allow us to participate in the state aggregated data collection process.

STRENGTHS OF SYSTEM: The Trauma Registry is user friendly, and flexible. Data points are easily added or changed, and any field can be reported on.

WEAKNESS(ES) OF SYSTEM: It only includes trauma patients. We have no database for the majority of patients who access the 9-1-1 system in Alameda County.

VALUABLE REPORTS: **PLEASE GIVE A BRIEF DESCRIPTION AND ATTACH A SAMPLE REPORT IF POSSIBLE.** See attached. I have included a list of all the data points collected in the Trauma Registry. Any of them can be reported upon.

VALUABLE DATA SYSTEM EXPERIENCES: PLEASE GIVE A BRIEF DESCRIPTION. I participated in the evaluation of two Trauma Registries in 1991 in order to compare and assess the capabilities of BATR and Trauma One. After the evaluation was made and Trauma One was chosen, I worked with Lancet to customize Trauma One and convert our old data. I presently manage the Trauma Registry for Alameda County, which includes all trauma data from the three Trauma Centers in addition to trauma scene deaths, trauma Receiving Hospital deaths, and trauma patients who are admitted to Receiving Hospitals.

OTHER DATA APPLICATIONS:
Certification database
Unusual Occurrence database
EMT-I Personnel database (new)
Receiving hospital transfer database (new)

WORD PROCESSING PROGRAM USED & VERSION (WordPerfect, Word, Other):
MS Office 97
MS Word

COMMENTS/ SUGGESTIONS:

EMS AGENCY:	**Coastal Valley EMS** **(formally Mendocino/Napa/Sonoma EMS)**
CONTACT(S): NAMES, TITLES&PHONES, EMAIL ADDRESS & FAX	Kent Coxon, EMS Administrator Jim Adamski, MIS Coordinator 1030 Center Drive, Ste. D Santa Rosa, CA 95403-2067 (707) 525-6501

OVERVIEW: One of the initial objectives of the newly formed Coastal Valleys EMS region was the development and implementation of a regional DBMS and CQI program. Under the current system, the CQI process was specific to each country and there existed no common method for PCR generation and data collection throughout the region. After researching multiple software systems, the region has adopted three methods for capturing prehospital data. These systems are the *Marin County Electronic Prehospital Care Information System, QUICNET* and *Advanced EMS* by Sunpro. Because of a wide variation in provider capabilities and call volume, it was determined that multiple systems were required to suit the needs of all providers.

Currently the EMS Region is working with representatives from each of the adopted software systems to standardize the data set captured and develop suitable interfaces to transfer the data to a central server. Because of Y2K issues associated with one of our current systems, we anticipate replacing that system with the *Marin County Electronic Prehospital Information System* during the 4th quarter of 1999.

HOW DEVELOPED:(IN-HOUSE, PROPRIETARY, FUNDING SOURCE) Both in-house through public funds and proprietary software development.

DATE IMPLEMENTED: Anticipated implementation date during the 4th quarter of 1999.

DATE LAST UPDATED: N/A - new system

DATA COLLECTION METHOD(S): Combination of keyboard entry and scannable "bubble form" systems. PC's and/or bubble form scanners will be located in hospitals and provider stations. A wide area network (WAN) server for the region will be located within the Napa County MIS Department.

DATABASE PLATFORM: Microsoft Access 97 and SQL Server.

SOFTWARE TYPE: PC based systems utilizing Windows NT or 95/98 operating systems.
VENDOR NAME: Marin County Electronic Prehospital Care Information System; QUICNET through American Medical Response and Advanced EMS by Sunpro, Inc.

LINKED DATABASE?: (PREHOSPITAL, TRAUMA, BASE HOSPITAL, TRAFFIC RECORDS OR OTHER)
EMS central dispatch CAD data, patient outcome data and certification/CE data.

PARTICIPATING IN STATE AGGREGATE DATA COLLECTION?(IF NOT, WHEN ANTICIPATED?) Currently the Napa County component is participating in the Statewide Aggregate Data Collection process. The remainder of the region will resume participation in the Statewide Aggregate Data Collection process after implementation of the new data collection system(s).

DATABASE UTILIZATION: Coastal Valleys EMS utilizes their management information system for continuous quality improvement, research, system design, education and training, CE and certification tracking, contract renewal and policy/protocol development.

FOR THOSE IN THE DEVELOPMENT STAGE, DATE PLANNED TO BE FUNCTIONAL:
Implementation of the *Marin County Electronic Prehospital Care Information System* is scheduled to be operational by the 4th quarter of 1999. During the 1st quarter of 2000, implementation of the SQL central server and Sunpro's *Advanced EMS* software system are scheduled to be functional.

STRENGTHS OF SYSTEM(S): Through the combination of these three distinctly different prehospital data collection systems, providers have the ability to select which system best suits the needs of their operation. The scannable "bubble form" system lends itself well to the busy provider with performance and system status management requirements. The keyboard entry system are better suited for the provider with a smaller call volume and the need for an all encompassing PCR generation and CQI monitoring software package.

WEAKNESS(ES) OF SYSTEM(S): With the use of multiple prehospital data collection systems, difficulties arise when dealing with data set standardization and interface issues. Any changes to the basic data set involves reprogramming multiple software packages and modifying their associated interface software.

VALUABLE REPORTS: PLEASE GIVE A BRIEF DESCRIPTION AND ATTACH A SAMPLE REPORT IF POSSIBLE.

VALUABLE DATA SYSTEM EXPERIENCES: PLEASE GIVE A BRIEF DESCRIPTION.

OTHER DATA APPLICATIONS:

WORD PROCESSING PROGRAM USED & VERSION (WordPerfect, Word, Other):

COMMENTS/ SUGGESTIONS:

EMS AGENCY: **Fresno/Kings/Madera EMS**

CONTACT(S):
NAMES, TITLES&PHONES, EMAIL
ADDRESS & FAX

Daniel Lynch, Administrator
P.O. Box 11867
Fresno, CA 93775
Phone: (559) 445-3387
Fax: (559) 445-3205
FKMEMS@FRESNO.CA.GOV

OVERVIEW: Fresno/Kings/Madera EMS collects data from dispatch, first responders, patient care reports, defibrillation, and hospitals. The data is integrated into a single server that is accessible to approved individuals through the internet. The data allows us to develop reports which look at the whole picture from beginning to end.

HOW DEVELOPED:(IN-HOUSE, PROPRIETARY, FUNDING SOURCE) In-house. The project is funded through region and county funds.

DATE IMPLEMENTED: Originally on July 1, 1999.

DATE LAST UPDATED: May 1999

DATA COLLECTION METHOD(S): Prehospital care and first responder reports are scantron forms, which are scanned. Westech hand held computer, manual entry.

DATABASE PLATFORM:

SOFTWARE TYPE: Access 97
VENDOR NAME: Microsoft

LINKED DATABASE?: (PREHOSPITAL, TRAUMA, BASE HOSPITAL, TRAFFIC RECORDS OR OTHER)
First responder, prehospital care reports, dispatch, hospital, defibrillation.

PARTICIPATING IN STATE AGGREGATE DATA COLLECTION?(IF NOT, WHEN ANTICIPATED?) Inconsistent. Anticipate sending data this year.

DATABASE UTILIZATION: Continuous quality improvement; research; system design; education/training.

FOR THOSE IN THE DEVELOPMENT STAGE, DATE PLANNED TO BE FUNCTIONAL:
Full function anticipated by October 31, 1999.

STRENGTHS OF SYSTEM: Access platform well known, easy access through internet, canned reports for quick review, ad hoc reporting capability, able to see big picture.

WEAKNESS(ES) OF SYSTEM: The system is only as strong as the data that is collected. Garbage in - Garbage out.

VALUABLE REPORTS: PLEASE GIVE A BRIEF DESCRIPTION AND ATTACH A SAMPLE REPORT IF POSSIBLE.

- On scene time by patient condition - to measure on scene time
- Code 3 transport from rural areas - to determine if helicopter should have been used.

VALUABLE DATA SYSTEM EXPERIENCES: PLEASE GIVE A BRIEF DESCRIPTION. There must be a commitment to manage and collect the data. More than one person should be familiar with the reporting process.

OTHER DATA APPLICATIONS: Certification Database - Microsoft Access

WORD PROCESSING PROGRAM USED & VERSION (WordPerfect, Word, Other): Word 97 and Corel WordPerfect.

COMMENTS/ SUGGESTIONS:

1999 MIS RESOURCE GUIDE

EMS AGENCY: **Imperial County EMS**

CONTACT(S):   John Pritting, EMS Administrator
NAMES, TITLES&PHONES, EMAIL   935 Broadway
ADDRESS & FAX   El Centro, CA 92243
                                    Phone: (760) 339-4468
                                    Fax: (760) 352-9933

OVERVIEW:

HOW DEVELOPED:(IN HOUSE, PROPRIETARY, FUNDING SOURCE)   Developed by Mountain Valley EMS Agency, with grant funding.

DATE IMPLEMENTED: November 1993.

DATE LAST UPDATED: April 1995.

DATA COLLECTION METHOD(S): Patient Care Report Forms.

DATABASE PLATFORM: *FoxPro*.

SOFTWARE TYPE:
VENDOR NAME:

LINKED DATABASE?:(PREHOSPITAL, TRAUMA, BASE HOSPITAL, TRAFFIC RECORDS OR OTHER)
Linked with base and receiving hospital and with primary ALS transport provider.

PARTICIPATING IN STATE AGGREGATE DATA COLLECTION?(IF NOT, WHEN ANTICIPATED?) Yes.

DATABASE UTILIZATION:

FOR THOSE IN THE DEVELOPMENT STAGE, DATE PLANNED TO BE FUNCTIONAL:

STRENGTHS OF SYSTEM:

WEAKNESS(ES) OF SYSTEM: Our main problem is receiving input from providers and hospitals thru data links system - system works better when EMS Agency enters data.

VALUABLE REPORTS: **PLEASE GIVE A BRIEF DESCRIPTION AND ATTACH A SAMPLE REPORT IF POSSIBLE.** Still experimenting.

VALUABLE DATA SYSTEM EXPERIENCES: PLEASE GIVE A BRIEF DESCRIPTION.

OTHER DATA APPLICATIONS:

WORD PROCESSING PROGRAM USED & VERSION (WordPerfect, Word, Other):

COMMENTS/ SUGGESTIONS:

EMS AGENCY: **Inland Counties EMS Agency**

CONTACT(S):   Diane Fisher, Agency Administrator
NAMES, TITLES&PHONES, EMAIL   164 W. Hospital Lane, Suite 4A
ADDRESS & FAX   San Bernardino, CA 92415
                                            Phone: (909) 888-7511
                                            Fax: (909) 824-7515
                                            DFISHER@PH.CO.SAN-BERNARDINO.CA.US

OVERVIEW: ICEMA is the local EMS Agency for Inyo, Mono and San Bernardino Counties covering 26% of the State geographically. Approximately 120,000 forms are generated annually providing the data elements required by the State EMS Authority.

HOW DEVELOPED:(IN-HOUSE, PROPRIETARY, FUNDING SOURCE) In-house.

DATE IMPLEMENTED: October 1991

DATE LAST UPDATED: On-going; daily

DATA COLLECTION METHOD(S): Scantron Forms

DATABASE PLATFORM:

SOFTWARE TYPE: Visual DBase Version 5.5
VENDOR NAME: Borland

LINKED DATABASE?: (PREHOSPITAL, TRAUMA, BASE HOSPITAL, TRAFFIC RECORDS OR OTHER)

PARTICIPATING IN STATE AGGREGATE DATA COLLECTION?(IF NOT, WHEN ANTICIPATED?) Anticipate be able to participate again by end of current FY.

DATABASE UTILIZATION: QI, Provider reports.

FOR THOSE IN THE DEVELOPMENT STAGE, DATE PLANNED TO BE FUNCTIONAL:

STRENGTHS OF SYSTEM: Provides comprehensive data base

WEAKNESS(ES) OF SYSTEM:
1) Written in D-Base
2) Difficult/impossible for electronics submission

VALUABLE REPORTS: PLEASE GIVE A BRIEF DESCRIPTION AND ATTACH A SAMPLE REPORT IF POSSIBLE. Scantron information provides QI reports on each EMT-P in our system who is currently doing data. We are able to track their intubation, ET, and advanced skills. We can break down the medication and ACLS Skills used.

VALUABLE DATA SYSTEM EXPERIENCES: PLEASE GIVE A BRIEF DESCRIPTION. Response times for a designated area can be pulled out of our scantron information along with that we can provide data from every field on the scantron.

OTHER DATA APPLICATIONS:

WORD PROCESSING PROGRAM USED & VERSION (WordPerfect, Word, Other): WordPerfect Suite Version 7

COMMENTS/ SUGGESTIONS:

EMS AGENCY: **Kern County EMS**

CONTACT(S):   Russ Blind, Senior Coordinator
NAMES,TITLES&PHONES, EMAIL   1400 H Street
ADDRESS & FAX   Bakersfield, CA 93301
                                  Phone: (805) 861-3200
                                  Fax: (805) 322-8453

OVERVIEW: The Kern County "EMS-AIMS" Project entails collection from several data sources of the EMS system. Currently, only two facets of "EMS-AIMS" are active or in development, including transport provider patient records and reconfiguration of the "Bay Area" trauma registry. The transport provider patient records or "Per-Transport" project is the most extensive data source. It is a form-based data collection and image storage system, driven by *Cardiff-Teleform* software. Forms are completed, then faxed directly into *Teleform* or scanned. Minor corrections are made, then case data is transmitted to our x-base (*FoxPro*).

HOW DEVELOPED:(IN-HOUSE, PROPRIETARY, FUNDING SOURCE) State block grant funds, and county funds.

DATE IMPLEMENTED: February 14,1995

DATE LAST UPDATED: June 1999

DATA COLLECTION METHOD(S):   Form based system, software "reads" alpha, numeric and optical mark entries, compares with data dictionary and isolates questionable entries for correction. Once corrected, case data is referred to our x-base for query.

DATABASE PLATFORM: *FoxPro Visual 5.0*, and *Fox-Fire*

SOFTWARE TYPE: Teleform Elite
VENDOR NAME:

LINKED DATABASE?: (PREHOSPITAL, TRAUMA, BASE HOSPITAL, TRAFFIC RECORDS OR OTHER)
Currently working on linkage of prehospital transport data into a trauma registry.

PARTICIPATING IN STATE AGGREGATE DATA COLLECTION?(IF NOT, WHEN
ANTICIPATED?) Participated for several quarters. Currently suspended pending state review of report topics.

DATABASE UTILIZATION:

FOR THOSE IN THE DEVELOPMENT STAGE, DATE PLANNED TO BE FUNCTIONAL:
Our PCR-Transport data project started full scale on 07/01/97.

The Kern County Trauma Registry is pending implementation until designation of a Trauma Center within the jurisdiction.

STRENGTHS OF SYSTEM: Saves extensive time over manual data entry and provides flexibility in collection with reading of alpha and numeric characters.

WEAKNESS(ES) OF SYSTEM: Hand writing is a critical factor for proper reading and decreases correction time.

VALUABLE REPORTS: **PLEASE GIVE A BRIEF DESCRIPTION AND ATTACH A SAMPLE REPORT IF POSSIBLE.** Hundreds of reports are custom designed - available upon request.

VALUABLE DATA SYSTEM EXPERIENCES: PLEASE GIVE A BRIEF DESCRIPTION.
1.) Importance of sound data dictionaries.
2.) User training and limitation of variation.

OTHER DATA APPLICATIONS:

WORD PROCESSING PROGRAM USED & VERSION (WordPerfect, Word, Other):
Microsoft Word/Office 97 Package.

COMMENTS/ SUGGESTIONS:

EMS AGENCY: **Los Angeles County EMS**

CONTACT(S):   Virginia Hastings, EMS Administrator
NAMES, TITLES&PHONES, EMAIL   5555 Ferguson Drive, Suite 220
ADDRESS & FAX   Los Angeles, CA 90022
                                                   Phone: (323) 890-7500
                                                   Fax: (323) 890-8528
                                                   VHASTINGS@DHS.CO.LA.CA.US

OVERVIEW: Data Collection for the Los Angeles County Emergency Medical Services is the responsibility of the Trauma and Emergency Medicine Information System (TEMIS). Initially implemented in 1988, the system migrated to a more advanced software and hardware technology in January 1992. Through the use of unique patient identifiers, the care of a trauma victim can be tracked from the time of "911" dispatch to discharge from the trauma hospital. The TEMIS system captures data from trauma hospital base hospital and EMS provider agencies.

The Los Angeles County EMS provider agencies send hard copies of the EMS form to LA County EMS on a monthly basis. Data from the hard copy are then entered by data entry personnel into TEMIS. The goal of this system is to have the EMTs and paramedics enter the information to improve accuracy. Currently, four public provider agencies and one private provider agency are on-line with TEMIS computers and have the capacity to generate numerous standard reports at their location and/or develop their own ad hoc reports.

All base hospitals currently capture their data elements on standardized forms (Base Hospital Form, Trauma Patient Summary). The data is then entered by data entry personnel at the base/trauma hospital and electronically uploaded to TEMIS every 24 hours. With each facility having TEMIS computers, each hospital site has the capacity to generate numerous standard reports at their location and/or develop their own ad hoc reports.

HOW DEVELOPED: Lancet Technology Incorporation through block grant funds, County funds, and Trauma Center fees.

DATE IMPLEMENTED: 1988; current software 1992

DATE LAST UPDATED: July 1997

DATA COLLECTION METHOD(S): EMS, base hospital, trauma hospital forms developed by the EMS Agency.

DATABASE PLATFORM:

Software Type: MS FoxPro
Vendor Name: Lancet version 3.3.

LINKED DATABASES?: (PRE HOSPITAL, TRAUMA, BASE HOSPITAL, TRAFFIC RECORDS OR OTHER)
Prehospital, trauma, base hospital.

PARTICIPATING IN STATE AGGREGATE DATA COLLECTION? (IF NOT, WHEN
ANTICIPATED?) Yes, our agency is currently participating in submitting quarterly data reports to the State.
Data is provided with a notation that information on non-transported patients is missing from one large
EMS provider. 1999 data should be complete.

DATABASE UTILIZATION: Los Angeles County EMS utilizes their integrated management
information system for:

- Continuous quality improvement
- Research
- System design
- Education and training
- Policy and protocol development
- Injury prevention
- Planning and development
- Report on past and present activities
- Study efficiency of EMS System
- Tobacco Tax and SB 12/612 reimbursement program for Trauma Centers
- Media
- Quality improvement activities
- Identify injury prevention needs
- Budget negotiations
- Justification of resources
- Quality of care review
- Identify problems, study the impact, strategize solutions, re-evaluate after change, etc, etc, etc...

FOR THOSE IN THE DEVELOPMENT STAGE, DATE PLANNED TO BE FUNCTIONAL:
N/A

STRENGTHS & WEAKNESS OF SYSTEM: A major strength of the program is its level of
sophistication. While the program can be taught to individuals with a background in both hardware and
software systems, because of the complexity of the program and limited County staff resources, Los
Angeles County has elected to have Lancet support staff under contract. In addition, the system
(incorporated 3 large database) requires ongoing program maintenance which we feel is best handled by
personnel most familiar with the program.

VALUABLE REPORTS: PLEASE GIVE A BRIEF DESCRIPTION AND ATTACH A SAMPLE REPORT IF
POSSIBLE.
- Resource utilization
- Evaluate scope of practice issues
- Compliance with LA policy/procedure
- Evaluation of trauma system, justification of cost associated with trauma care
- Destination decisions, diversion statistics

– Compliance with response, scene, and transport time policy and evaluate the need for additional resources

– Outcome comparisons with Standing Field Treatment Protocols

VALUABLE DATA SYSTEM EXPERIENCES: PLEASE GIVE A BRIEF DESCRIPTION.

– Complex review of trauma system utilizing "Probability of Survival" reports
– Ability to provide data to all EMS, Base Hospital, and Trauma Hospital providers
– Publish articles on our system (evaluation of trauma system, use of QI filters with trauma, etc.)
– Assist hospitals with making a decision as to whether to join the trauma system (currently working with Pomona Valley and Queen of the Valley)
– Alert paramedic provider agencies of the weaknesses and strengths with documentation that reflects patient care
– Evaluate Standing Field Treatment Protocol design and use by utilizing outcome data from receiving hospitals

OTHER DATA APPLICATIONS: N/A

WORD PROCESSING PROGRAM USED & VERSION: Word Perfect 6.1 (soon to be upgraded to 7.0)

COMMENTS/SUGGESTIONS:

EMS AGENCY: **Marin County EMS**

CONTACT(S):   Ardith Hamilton, Program Administrator
NAMES, TITLES&PHONES, EMAIL   Jay Myhre, Technical Systems Support Analyst II
ADDRESS & FAX   Phone: (415) 499-6871 (Ardith)
                                                         Phone: (415) 499-5011 (Jay)
                                                         Fax: (415) 499-3747
                                                         AHAMILTON@MARIN.ORG
                                                         JMYHRE@MARIN@ORG

OVERVIEW: The Marin County EMS Agency has collected prehospital care information electronically since 1998. With this system:
C   Users enter and print prehospital care records at receiving hospitals, provider agencies, and the EMS office.
C   Data is merged into and retrieved from the SQL Server from remote locations using Dial-Up networking. The server has multiple modems, permitting simultaneous access.
C   Receiving hospitals retrieve data for ALS calls if the patient was delivered to them. A comparison of the treatment guideline (protocol) used is made against the emergency department outcome to determine if appropriate treatment was given by the paramedics. This information is then sent back to EMS where it is available for retrieval by the provider agency.
C   Provider agencies use the receiving hospital comparison of treatment guideline to ED outcome as a major component in their CQI program,
C   Several commercial billing agencies retrieve patient care data from the SQL server to assist in preparing insurance/ patient billing.

HOW DEVELOPED:(IN-HOUSE, PROPRIETARY, FUNDING SOURCE) This system was developed in-house using input from provider agencies and paramedics. State funding was not used in its development and the County holds a copyright on the program.

DATE IMPLEMENTED: 1998

DATE LAST UPDATED: June 1998

DATA COLLECTION METHOD(S):
C   Prehospital care data is entered into data collection forms on desktop PCs then merged into the EMS SQL Server database via dial-up networking.
C   911 dispatch data is downloaded from the County CAD and merged into then EMS SQL Server.

DATABASE PLATFORM: Marin County EMS uses a Client/ Server system - a relational database for the front-end and an SQL Server for the back-end.

SOFTWARE TYPE: Relational Database: Access 97, SQL Server: SQL Server 6.5, Spreadsheet: Excel 97
VENDOR NAME: Microsoft

LINKED DATABASE?: (PREHOSPITAL, TRAUMA, BASE HOSPITAL, TRAFFIC RECORDS OR OTHER)

PARTICIPATING IN STATE AGGREGATE DATA COLLECTION?(IF NOT, WHEN ANTICIPATED?) Yes

DATABASE UTILIZATION:
C   Collect patient care data
C   Print readable patient care record
C   Create ad hoc and recurring reports
C   Print monthly vehicle dispatch reports, to include provider contract compliance.
C   Helicopter transport review
C   Provide billing agencies patient care data
C   Create monthly detailed general and treatment guideline audits
C   Assess improvements in patient care
C   Continuing education tracking
C   Assist providers in doing their CQI

FOR THOSE IN THE DEVELOPMENT STAGE, DATE PLANNED TO BE FUNCTIONAL:

STRENGTHS OF SYSTEM:
C   Software provided at no cost to any EMS agency desiring a state of the art prehospital patient care system; technologist support available through contract with Marin County.
C   System voluntarily adopted by all prehospital care providers and hospitals in the county.
C   Ease of use requiring shorter in-service training time.
C   Wide-area networking (WAN) permits extensive security provided by NT and SQL Servers and removes the need to transfer data files via diskette or modem.
C   Providers and paramedics can perform their patient care CQI electronically.
C   On site database and networking technical support analyst.

WEAKNESS(ES) OF SYSTEM: Requires at least half-time systems analyst position to maintain system. Analyst requires advanced knowledge of Microsoft Access 97 and SQL Server 6.5. In reality, this is not a weakness of the system, rather the reality of maintaining a good prehospital patient care system.

VALUABLE REPORTS: **PLEASE GIVE A BRIEF DESCRIPTION AND ATTACH A SAMPLE REPORT IF POSSIBLE.**
C   Monthly vehicle reports (frequency, compliances, etc.)
C   Helicopter transports
C   Compliance with Marin County Policy and Procedures
C   Paramedic CQI report
C   General audits of data entry
C   Specific audits of treatment guidelines (protocols)

VALUABLE DATA SYSTEM EXPERIENCES: **PLEASE GIVE A BRIEF DESCRIPTION.**
C   The capabilities and performance of the system greatly improved when we moved from a solely PC relational system to a Client-Server system using Access 97 as the front end and SQL Server 6.5 as the back end.

OTHER DATA APPLICATIONS:
C   Paramedic, MICN, and EMT-I accreditation/ certification/ authorization and continuing education tracking

WORD PROCESSING PROGRAM USED & VERSION (**WordPerfect, Word, Other**)**:**
Microsoft Word 97

COMMENTS/ SUGGESTIONS:
C   Do not expect a working prehospital care database system to be maintenance free.
C   To provide a continuous user-friendly service, the system requires the availability of someone who can address user-issues as they arise and can modify the system as needed. This system is essentially updated each January, with minor modifications in July.
C   Equipment (PCs and printers) must be maintained, updated, and replaced as necessary.

EMS AGENCY: **Monterey County EMS**

CONTACT(S):   Chris LeVenton, EMS Administrator
NAMES, TITLES&PHONES, EMAIL   19065 Portola Drive, Ste. I
ADDRESS & FAX   Salinas, CA 93908
                                                       Phone: (831) 755-5013
                                                       Fax: (831) 455-0680
                                                       MNTRYCOEMS@AOL.COM

OVERVIEW: Paper PCR & Hospital Outcome Report hand-keyed into computer database, which is then linked to ambulance CAD data. Paper "First Responder Records" are hand-keyed into a separate database, which has not yet been linked to any of the above information.

HOW DEVELOPED:(IN-HOUSE, PROPRIETARY, FUNDING SOURCE) In-house.

DATE IMPLEMENTED: Gradually over a ten year period.

DATE LAST UPDATED: 1998

DATA COLLECTION METHOD(S): See Above.

DATABASE PLATFORM: Q & A. dBASE

SOFTWARE TYPE:
VENDOR NAME:

LINKED DATABASE?: (PREHOSPITAL, TRAUMA, BASE HOSPITAL, TRAFFIC RECORDS OR OTHER)
PCR, hospital outcome, CAD

PARTICIPATING IN STATE AGGREGATE DATA COLLECTION?(IF NOT, WHEN ANTICIPATED?) No.

DATABASE UTILIZATION: Regular (monthly) reports to system participants and ad hoc reports.

FOR THOSE IN THE DEVELOPMENT STAGE, DATE PLANNED TO BE FUNCTIONAL:

STRENGTHS OF SYSTEM: We have information from dispatch through discharge on almost all patients.

WEAKNESS(ES) OF SYSTEM: 1) Not all of the fields on the written PCR are transcribed into the database. 2) Ditto for the First Responder Records.

VALUABLE REPORTS: PLEASE GIVE A BRIEF DESCRIPTION AND ATTACH A SAMPLE REPORT IF POSSIBLE.

VALUABLE DATA SYSTEM EXPERIENCES: PLEASE GIVE A BRIEF DESCRIPTION.

OTHER DATA APPLICATIONS:

WORD PROCESSING PROGRAM USED & VERSION (WordPerfect, Word, Other)**:**
WordPerfect 5.1, 6.1; Word

COMMENTS/ SUGGESTIONS:

EMS AGENCY: **Mountain-Valley EMS**

CONTACT(S):   Steve Andriese, Executive Director
NAMES, TITLES&PHONES, EMAIL   1101 Standiford Ave., #D1
ADDRESS & FAX   Modesto, CA 95350
                                              Phone: (209) 529-5085
                                              Fax: (209) 529-1496
                                              ANDRIESE@AOL.COM

OVERVIEW: Using the EMS Database System 4.1.

HOW DEVELOPED:(IN-HOUSE, PROPRIETARY, FUNDING SOURCE)
In-house, funded by block grant and county funds.

DATE IMPLEMENTED: February 2, 1992

DATE LAST UPDATED: August 1999.

DATA COLLECTION METHOD(S): Keyboard entry, and electronic imports.

DATABASE PLATFORM: *Visual FoxPro 5.0*

SOFTWARE TYPE: Data Pro
VENDOR NAME: CompuCounsel

LINKED DATABASE?: (PREHOSPITAL, TRAUMA, BASE HOSPITAL, TRAFFIC RECORDS OR OTHER)
Prehospital, hospital, CAD.

PARTICIPATING IN STATE AGGREGATE DATA COLLECTION?(IF NOT, WHEN ANTICIPATED?) Yes.

DATABASE UTILIZATION: Used for contract compliance evaluation, EMS system evaluation, policy and protocol development.

FOR THOSE IN THE DEVELOPMENT STAGE, DATE PLANNED TO BE FUNCTIONAL:

STRENGTHS OF SYSTEM: Strong linkage capability, intuitive interface, strong report generation.

WEAKNESS(ES) OF SYSTEM: Lacks trend reports, user definable fields. Lacks procedure reports to cross with medication administration.

VALUABLE REPORTS: PLEASE GIVE A BRIEF DESCRIPTION AND ATTACH A SAMPLE REPORT IF POSSIBLE.

1.) Response time compliance % shown for selected areas for a selected areas for a selected time period.

2.) Response time compliance % shown for selected areas to show comparison of monthly compliance..

VALUABLE DATA SYSTEM EXPERIENCES: PLEASE GIVE A BRIEF DESCRIPTION.

OTHER DATA APPLICATIONS: Utilities for utilizing ICD.9 to calculate ISS, probability of survival.

WORD PROCESSING PROGRAM USED & VERSION (WordPerfect, Word, Other)**:**

COMMENTS/ SUGGESTIONS:

1999 MIS RESOURCE GUIDE

EMS Agency: **North Coast EMS**

CONTACT(S):   Larry Karsteadt, Executive Director
NAMES,TITLES&PHONES, EMAIL   86 E. Street
ADDRESS & FAX   Eureka, CA 95501
                                   Phone: (707) 445-2081
                                   Fax: (707) 445-0443
                                   COOR@NORTHCOAST.COM

OVERVIEW: The North Coast Emergency Medical Services Agency began implementation of the *Prehospital Care Reporting & Database System (PCR-DS)* in June 1992. This prehospital system utilizes computer data entry points located in receiving hospitals and provider base stations for combined PCR generation and data entry. The data entry points generate a variety of audit and quality improvement reports in addition to CE tracking.

Modules located on the server provide custom access to quality improvement reports, certification issuance and tracking, and data for ad hoc reporting. The latest version, PCR 97, is currently being used within the region on upgraded computer hardware.

HOW DEVELOPED:(IN-HOUSE, PROPRIETARY, FUNDING SOURCE) In-house through public funds.

DATE IMPLEMENTED: June 1992.

DATE LAST UPDATED: May 26, 1997**.**

DATA COLLECTION METHOD(S): PC's located in hospitals and prehospital provider base stations.

DATABASE PLATFORM: PCR and Administrative Report Programs: *Microsoft Access 2.0*; automated communication system: *Visual Basic*.

SOFTWARE TYPE: Microsoft Access 2.0
VENDOR NAME:

LINKED DATABASE?: (PREHOSPITAL, TRAUMA, BASE HOSPITAL, TRAFFIC RECORDS OR OTHER) Certification.

PARTICIPATING IN STATE AGGREGATE DATA COLLECTION?(IF NOT, WHEN ANTICIPATED?) Yes.

DATABASE UTILIZATION: North Coast EMS plans to use their management information system for continuous quality improvement, system design, education and training, CE and certification tracking and policy and protocol development.

FOR THOSE IN THE DEVELOPMENT STAGE, DATE PLANNED TO BE FUNCTIONAL:

STRENGTHS OF SYSTEM: Excellent quality documentation is produced by the paramedic with the ability to retrieve the entire PCR or extract selected information.

When the system is behaving properly, most technical expertise (considerable initial orientation to the software is necessary). More involved queries or reports still require either a large investment in staff time or contracting with an outside contractor with frequent delays and at significant cost.

WEAKNESS(ES) OF SYSTEM: PCR97 was built on the Access 2.0 platform and it is not possible to use the more reliable and more "user friendly" Access 97 platform without considerable time spent in conversion.

Many technical problems (error messages) occur while using the software. Some problems can be resolved easily, though most are extremely time consuming.

Because of the frequent technical problems mentioned above, it is difficult to rely on the results of queries and reports. Considerable time must be spent in confirming and cross checking results.

Retrieving data from remote computers is difficult, particularly from computers that do not have a dedicated modem line.

Aggregating data to a particular computer is a relatively straightforward process, though this too requires considerable initial orientation. Confirming that all data has been properly aggregated and that data has not been lost is generally more time consuming than the actual aggregation process. Although a more reliable automated system exists, the cost is prohibitive.

Technical support is limited to one company and essentially to two technicians.

The PCR97 reporting tool has evolved in light of suggested improvements. However, since no standard state/nationwide reporting tool exists, it is difficult to compare local data to that elsewhere.

VALUABLE REPORTS: **PLEASE GIVE A BRIEF DESCRIPTION AND ATTACH A SAMPLE REPORT IF POSSIBLE.** We generate many reports/queries addressing a variety of issues. A more reliable, more automated and simpler system would free staff time to address more CQI issues. Particularly we would like to design queries which are more intuitive use to field providers so as to encourage greater compliance and accuracy in completing the PCR form.

Included please find a recent report designed to increase awareness among field personnel of the importance of short major trauma scene times.

VALUABLE DATA SYSTEM EXPERIENCES: **PLEASE GIVE A BRIEF DESCRIPTION.** Clean data replies on the willing and informed participation of the field personnel completing the PCR form. Our hope is that field personnel will increasingly view the automated PCR form as a means of collecting data will contribute to the betterment of the EMS system and to the care received by patients.

OTHER DATA APPLICATIONS:
Verify provider compliance with county ordinance requirements.
Assess the use and effectiveness of medications and procedures.
Assess patient flow patterns according to patient (hospital) destination.
Compare field activity to hospital patient outcome data (rare).

WORD PROCESSING PROGRAM USED & VERSION **(WordPerfect, Word, Other):**
Microsoft "Word"

COMMENTS/ SUGGESTIONS:

1999 MIS RESOURCE GUIDE

EMS AGENCY: **Northern California EMS**

CONTACT(S):   Dan Spiess, Chief Executive Officer
NAMES, TITLES&PHONES, EMAIL   970 Executive Way
ADDRESS & FAX   Redding, CA 96002
                                             Phone: (530) 221-7900
                                             Fax: (530) 221-7544
                                             NCEMS@C-ZONE.NET

OVERVIEW: Nor-Cal EMS is in the procurement process for replacement trauma registry and prehospital reporting/data management programs. At this time the programs and implementation details are undecided.

HOW DEVELOPED:(IN-HOUSE, PROPRIETARY, FUNDING SOURCE)

DATE IMPLEMENTED:

DATE LAST UPDATED:

DATA COLLECTION METHOD(S): Plans are for continued report data input directly by field personnel with frequent and automatic data transfer to the data server. Trauma data may be submitted via modem or diskette.

DATABASE PLATFORM:

SOFTWARE TYPE:
VENDOR NAME:

LINKED DATABASE?: (PREHOSPITAL, TRAUMA, BASE HOSPITAL, TRAFFIC RECORDS OR OTHER)

PARTICIPATING IN STATE AGGREGATE DATA COLLECTION?(IF NOT, WHEN ANTICIPATED?) No.

DATABASE UTILIZATION:

FOR THOSE IN THE DEVELOPMENT STAGE, DATE PLANNED TO BE FUNCTIONAL:
11/1/99

STRENGTHS OF SYSTEM: Improved reliability & data quality, reduced lag time for data to reach server, improved quality of tech support.

WEAKNESS(ES) OF SYSTEM: Unknown as yet.

VALUABLE REPORTS: PLEASE GIVE A BRIEF DESCRIPTION AND ATTACH A SAMPLE REPORT IF POSSIBLE.
Dependent on program selections.

VALUABLE DATA SYSTEM EXPERIENCES: PLEASE GIVE A BRIEF DESCRIPTION.
Rock-solid contractual requirements essential in working with data system vendors & support.

OTHER DATA APPLICATIONS:

WORD PROCESSING PROGRAM USED & VERSION (WordPerfect, Word, Other)**:**
MS Word 97

COMMENTS/ SUGGESTIONS:

EMS AGENCY: **Orange County EMS**

CONTACT(S):   David Johnson, RN, EMS QI Coordinator
NAMES, TITLES&PHONES, EMAIL   405 West Fifth St., Ste. 301A
ADDRESS & FAX   Santa Ana, CA 92701
                                                        Phone: (714) 834-3125
                                                        Fax: (714) 834-6233
                                                        DJOHNSON28@JUNO.COM

OVERVIEW: The Orange County EMS agency implemented the management information system in July of 1984. Revelation (TM) was the database platform. In 1990, the agency converted to DataEase (TM). This was developed in-house with consultants. It utilizes standardized forms, including a Patient Care Record (PCR), and Base Hospital Report (BHR). Trauma data is taken from the Trauma Registry form.

HOW DEVELOPED:(IN-HOUSE, PROPRIETARY, FUNDING SOURCE) In-house through public funds.

DATE IMPLEMENTED: July 1, 1984

DATE LAST UPDATED: March 1996

DATA COLLECTION METHOD(S): Standardized forms (NCR) - Prehospital Care Report, Base Hospital Report, Trauma Registry, Hospital Transport Data Discharge.

DATABASE PLATFORM: Windows/Windows NT.

SOFTWARE TYPE: DataEase (TM).
VENDOR NAME:

LINKED DATABASE?: (PREHOSPITAL, TRAUMA, BASE HOSPITAL, TRAFFIC RECORDS OR OTHER)

PARTICIPATING IN STATE AGGREGATE DATA COLLECTION?(IF NOT, WHEN ANTICIPATED?) No.

DATABASE UTILIZATION:

FOR THOSE IN THE DEVELOPMENT STAGE, DATE PLANNED TO BE FUNCTIONAL:

STRENGTHS OF SYSTEM:

WEAKNESS(ES) OF SYSTEM:

VALUABLE REPORTS: PLEASE GIVE A BRIEF DESCRIPTION AND ATTACH A SAMPLE REPORT IF POSSIBLE. See Comments Section.

VALUABLE DATA SYSTEM EXPERIENCES: PLEASE GIVE A BRIEF DESCRIPTION.

OTHER DATA APPLICATIONS:

WORD PROCESSING PROGRAM USED & VERSION (WordPerfect, Word, Other)**:** Word 95 & 97, Office 98.

COMMENTS/ SUGGESTIONS: The three trauma centers in Orange County use Trauma One from Lancet Technologies. They currently use V 3.3 for Windows. Our agency is currently evaluating the NT version for installation at EMS to link trauma centers to our agency. Base hospitals are using DataEase for base hospital data, one is using Revelation but is anticipating going to Lancet Trauma One for their base hospital data this year.

Current Reports:

1. Air Ambulance Reports - to monitor the AA incidents and AA Prehospital patient care.
2. Autopsy Report - to identify trauma related deaths that went to a non-trauma PRC and evaluate the appropriateness of transport to the PRC.
3. Base Hospital Report - completed by the MICN at base with both hard copy and diskette sent to EMS.
4. Bypass Report - reports from all PCR's documenting the requested downtime and bypasses (also using ReddiNet for bypass activity monitoring and reporting).
5. ETI Reports - Endotracheal Intubation/ Airway Management reports from the base hospitals documenting total attempts, number of successful ETI's, # of unsuccessful ETI's, # of candidates.
6. Hospital Discharge Data Summary - Outcome data from PRC ED departments.
7. Prehospital Care Report - field records for ALS patients sent by the PRC's.
8. Trauma Registry - from Trauma Center coordinators.

EMS AGENCY: **Sacramento County EMS**

CONTACT(S):   1)Cary Parkins (916)366-6222
NAMES, TITLES&PHONES, EMAIL   2)Bruce Wagner, Chief
ADDRESS & FAX   9616 Micron Avenue, Suite 635
                                                              Sacramento, CA 95827
                                                              Phone: (916) 875-9753
                                                              Fax: (916) 875-9711
                                                              WAGNER@CO.SACRAMENTO.CA.US

OVERVIEW: Selected data elements are manually extracted from all service provider PCRs and compiled on a personal computer (PC) based database. The database software allows the generation of reports which are analyzed to determine system efficiency and effectiveness and to identify possible areas in need of improvement.

HOW DEVELOPED:(IN-HOUSE, PROPRIETARY, FUNDING SOURCE) Software developed by Mountain Valley (formerly Alpine, Mother Lode, San Joaquin) EMS Agency and further customized in-house by contracted consultant.

DATE IMPLEMENTED: August 1, 1996

DATE LAST UPDATED: Monthly

DATA COLLECTION METHOD(S): Hand and electronic entry of PCRs by providers; PCR copies supplied to EMS Agency contracted consultant by providers; consultant personnel hand enter selected elements from PCRs into PC based database.

DATABASE PLATFORM:

SOFTWARE TYPE: Fox Pro based software called "EMS Datapro"
VENDOR NAME: developed by Mountain Valley EMS Agency

LINKED DATABASE?: (PREHOSPITAL, TRAUMA, BASE HOSPITAL, TRAFFIC RECORDS OR OTHER) No Links

PARTICIPATING IN STATE AGGREGATE DATA COLLECTION?(IF NOT, WHEN ANTICIPATED?) Yes.

DATABASE UTILIZATION: Database used for analyses of system effectiveness and efficiency; listing of EMT-P contacts; ALS skills utilized; # of refusals of service; and # of deaths declared on scene; etc.

FOR THOSE IN THE DEVELOPMENT STAGE, DATE PLANNED TO BE FUNCTIONAL:
N/A

STRENGTHS OF SYSTEM: Extensive information with hard copies of PCRs; focused audits; etc.

WEAKNESS(ES) OF SYSTEM: Labor intensive hand entry of data. Gradually moving to electronic transfer as providers modernize.

VALUABLE REPORTS: PLEASE GIVE A BRIEF DESCRIPTION AND ATTACH A SAMPLE REPORT IF
POSSIBLE. Of value to our Agency are the reports that give a broad picture of trends in the system. For example:
9)   Skills success rates.
10)   Average ages of certain types of patients
11)   Average scene times
12)   Patient volumes for each provider and hospital
13)   Disposition percentages (i.e. ED, Released at Scene, Expired, etc.)

VALUABLE DATA SYSTEM EXPERIENCES: PLEASE GIVE A BRIEF DESCRIPTION.
Our experience has shown that there is a need for:
1)   An internal policy for data collection management, storage, confidentiality, access, reports, etc.;
2)   A commitment by the providers to submit the data and
3)   The development of a system-wide approach which is acceptable to all participating organizations.

OTHER DATA APPLICATIONS: None at this time

WORD PROCESSING PROGRAM USED & VERSION (WordPerfect, Word, Other)**:**

COMMENTS/ SUGGESTIONS: None at this time.

EMS AGENCY: **San Diego County EMS**

CONTACT(S): Patricia Murrin, EMS Coordinator, IS
NAMES, TITLES&PHONES, EMAIL San Diego County EMS
ADDRESS & FAX 6255 Mission Gorge Rd.
San Diego, CA 92120
Phone: (619) 285-6429
Fax: (619) 285-6531
PMURRIHE@CO.SAN-DIEGO.CA.US

OVERVIEW: San Diego County's Emergency Medical Services agency began implementation of the automated information system in 1984 with the computerized trauma registry and Medical Examiner's report, and the optically scanned prehospital patient record (PPR). The Quality Assurance Network (QANet) wide area network (WAN) was implemented in 1994. This network electronically links base hospitals, receiving hospitals, prehospital providers (EMTs and paramedics) and County EMS through either hard wires (56K lines) or modems. Transition to a complete electronic format with data initially entered into one database is in process. Currently there are linkages between the multiple databases so that the data can be compiled for analysis and reporting.

HOW DEVELOPED:(IN-HOUSE, PROPRIETARY, FUNDING SOURCE) In-house through public funds.

DATE IMPLEMENTED: Initially 1984, QANet in 1994

DATE LAST UPDATED: October, 1998

DATA COLLECTION METHOD(S): Hand entered "bubble" format PPR which is then optically scanned to Paradox Windows; PC entry (either point of contact or retrospective chart abstraction) of trauma registry at trauma centers into FoxPro which is then exported to a Paradox database at the EMS agency; PC entry at EMS by clerks of ME data into Paradox; PC entry by prehospital personnel into the QANet (Paradox) at hospital/provider agency.

DATABASE PLATFORM: PC based Borland C, Delphi & Paradox

SOFTWARE TYPE:
VENDOR NAME:

LINKED DATABASE?:(PREHOSPITAL, TRAUMA, BASE HOSPITAL, TRAFFIC RECORDS OR OTHER)
Dispatch, prehospital (PPR), emergency departments (ED), trauma registry, Medical Examiner (ME), emergency medical technician/paramedic/ mobile intensive care nurse (EMT /PARAMEDIC/MICN) certification/accreditation/authorization databases are all linked via the QANet.

PARTICIPATING IN STATE AGGREGATE DATA COLLECTION?(IF NOT, WHEN ANTICIPATED) No.

DATABASE UTILIZATION: The databases are utilized for continuous quality improvement, research, injury surveillance, system design, education, contract monitoring, policy and protocol development, and certification tracking.

STRENGTHS OF SYSTEM: The strength of the system is that the QANet is a live, true-time data collection system to which all participants have access both for inputting data and retrieving their individual data.

WEAKNESSES OF SYSTEM: The weakness is that the legacy trauma registry, ME and scanned PPR systems have yet to be integrated into the QANet (planned to be completed in 1999). Although these databases currently can be linked, this process utilizes too many resources.

VALUABLE REPORTS: PLEASE GIVE A BRIEF DESCRIPTION AND ATTACH A SAMPLE REPORT IF POSSIBLE. *Prehospital Quarterly Reports*: These reports prepared for Advanced Life Support (ALS) and Basic Life Support (BLS) providers contain incidence data in aggregate and by provider agency. Data include run outcome, chief complaint, response time, geographic and demographic information.

Prehospital Annual Report: This report prepared for the EMS community contains general information on the EMS system, as well as aggregate run outcome, chief complaint, demographic, geographic and temporal data.

Trauma System Annual Report: This report is distributed widely to the medical community and the general public and contains incidence information on the total number of trauma patients, as well as detailed information on those patients who meet modified Major Trauma Outcome Study (MTOS) criteria for inclusion in the San Diego County Trauma Registry. This report contains demographic, geographic and temporal data by type of injury.

Sexual Assault Response Team (SART) Annual Report: This report contains information on the incidence of sexual assault evidentiary exams performed. Demographic, geographic, utilization, and judicial outcome data are reported.

Suicide Homicide Audit Committee (SHAC) Annual Report: This report to the County Board of Supervisors and widely distributed to the violence and injury prevention community contains information on homicides and suicides of youth ages 8-24. This report contains general information on the SHAC member agencies, victim data gathered during a multi agency review process and the Committee's findings and recommendations for violent death prevention. The analysis includes demographic, geographic, temporal, personal history and injury data.

Domestic Violence Audit Committee (DVAC) Annual Report (planned): This report to the County Board of Supervisors will contain information on domestic violence related deaths based on victim data gathered during a multi agency review process.

Injury Surveillance Annual Report: This report prepared for the injury prevention community utilizes information from multiple databases and contains data on injuries by level of severity, and demographic, geographic and temporal data by type of injury to identify populations at risk.

VALUABLE DATA SYSTEM EXPERIENCES: PLEASE GIVE A BRIEF DESCRIPTION. Electronic Data Transmission: In 1994 San Diego County EMS began implementing electronic prehospital patient records through the QANet. With 8 base hospitals and over 30 agencies providing ALS and BLS care and responding to approximately 250,000 calls per year, this has been a monumental task. The biggest benefit of this system has been the availability of "real time" data for monitoring quality assurance.

Database Linkage: San Diego County EMS, working with the California Highway Patrol, completed a linkage between the Statewide Integrated Traffic Records System (SWITRS) data; prehospital, trauma and ME patient data; and GIS software to create detailed records for motor vehicle injury crash investigation. This Traffic Related Injury GIS Database contains geocoded traffic records of every injury crash that occurs within the County. Data points include crash details, violations, precedent events, site description and location, victim demographics and nature and severity of injuries.

Surveillance: San Diego County EMS is utilizing data currently collected by prehospital providers and the Trauma System to identify populations at risk and to monitor changes in incidence and rates in these populations. Additionally, the Traffic Related Injury GIS Database allows EMS to create maps of injury crashes by any specific data element or combination of elements such as pedestrian injuries occurring to school age children on weekdays between 2:00 and 5:00pm. The location of schools, parks and playgrounds can then be layered to determine the geographic significance of these locations. Because this system also incorporates satellite photography, an ortho photo image of the location can be created. The ortho photos have a resolution that allows one to view detail such as crosswalks, signage and obstructions.

Research and Evaluation: San Diego County EMS is currently involved in several research projects which include developing research methodology and protocols, designing data collection tools, collecting data, and evaluating and performing statistical analyses on results. In August, 1998, the Rapid Sequence Intubation (RSI) study was initiated, wherein EMT-Paramedics utilize paralytics to assist with intubation in a narrowly defined patient population.

OTHER DATA APPLICATIONS: PARADOX APPLICATIONS: EMS Electronic Bulletin Board on QANet, Prehospital Audit Committee Reports (PAC), Sexual Assault Response Tracking System (SART), Ambulance Provider Permit System (APPS), Trauma Tracking System (TTS), Medical Audit Committee Reports (MAC), Trauma Complication Database (MAC Stats), Motor Vehicle Crash

Database (GM Project), Injury Surveillance System, Inventory Tracking System (ITS), Repairs Tracking System (RTS), First Responder Claims, and Expenditures and Revenue Tracking databases
EIS SOFTWARE APPLICATIONS: Regional Disaster Directory
FILEMAKER PRO APPLICATIONS: Domestic Violence Audit Committee Database (DVAC), and Suicide Homicide Audit Committee Database (SHAC)
GIS: Arcview

WORD PROCESSING PROGRAM USED & VERSION (WordPerfect, Word, Other): WordPerfect 6.1 & 7. Migrating to Word 7/8.

COMMENTS/ SUGGESTIONS:

EMS AGENCY: **San Francisco County EMS**

CONTACT(S)   Abbie Yant, EMS Administrator
NAMES, TITLES&PHONES, EMAIL   Mark Forrette, Quality Assurance Manager
ADDRESS & FAX   Derek Wong, MIS Contact
                                     1540 Market Street, Suite 220
                                     San Francisco, CA 94102
                                     Phone: (415) 546-9963
                                     Fax: (415) 241-0519

OVERVIEW: San Francisco County Emergency Medical Services established their prehospital automated database system in July 1994. This system utilizes a combined patient care and data collection (bubble format) form, eliminating duplicate documentation.

Information is collected from dispatch, prehospital (ambulance), ED and outcome data, which are all linked for system wide analysis. Of special interest in this system are the numerous data linkages and pre hospital ICD-9 coding developed in-house. Since its inception this database has experienced multiple problems, which are detailed below.

The prehospital Patient Care Record (PCR) data is currently entered by the paramedics and EMTs on a Scantron® bubble form and read with an ink reader scanner. Significant amounts of incomplete data exists due to missing, inaccurate, or unreadable bubble codes. The present scanner does not sort good data from bad, so no assessments or feedback can be given on individual forms to paramedics unless the forms are manually sorted. Individual data fields are designed to accommodate multiple purposes, including treatment documentation, outcomes assessment, recording of demographic patient data and time recording. The fields are not mutually exclusive in many instances, making data analysis a challenge.

There are not identified mandatory fields. Even within existing data, compliance with data reporting for individual fields varies tremendously, from 100% reporting (with several fields) to <35% reporting for vital signs. Data elements are not designed to be verifiable (for example, insurance status), and are not duplicately requested from other sources (such as the hospital report of insurance status). Names are not included in the data base, and no method exists to unduplicate patients. Additionally, patient duplication is possible considering the nature of ambulance services. Some patients account for multiple ambulance dispatches over a short period of time.

Alternative methods of prehospital data capture are available. Currently on the market are "pen-based" notebook/notepad systems that allow superb data capture while being very user friendly. Moreover, these systems are forward thinking and allow advances in technology to be utilized. Examples include radio modems that allow direct downloading of dispatch CAD data when a unit is dispatched. The EMS Agency has established criteria and specifications for a field based data management system. We are pursuing

implementation of an efficient cost effective system that meets the critical needs of the ambulance providers as well as the EMS Agency.

The conclusion is that the traditional paper method of collecting data in the out-of-hospital environment is inefficient, costly, and is not a good use of the paramedic's time or skills. In addition legally required fields are not completed and there is no simple means to review each chart for completeness.

HOW DEVELOPED:(IN-HOUSE, PROPRIETARY, FUNDING SOURCE) In-house through block grant and county funds.

DATE IMPLEMENTED: July 1, 1994.

DATE LAST UPDATED: August 1996.

DATA COLLECTION METHOD(S): Prehospital Patient Record Form (scannable).

DATABASE PLATFORM: *MS FoxPro 2.5*.

SOFTWARE TYPE:
VENDOR NAME:

LINKED DATABASE?: (PREHOSPITAL, TRAUMA, BASE HOSPITAL, TRAFFIC RECORDS OR OTHER)
Databases are linked by Dispatch, Prehospital (ambulance), ED and outcome records.

PARTICIPATING IN STATE AGGREGATE DATA COLLECTION?(IF NOT, WHEN ANTICIPATED?) No.

DATABASE UTILIZATION: The City and County of San Francisco EMS Agency utilizes their heavily integrated management information system for continuous quality improvement, research, system design, education and training and policy and protocol development.

FOR THOSE IN THE DEVELOPMENT STAGE, DATE PLANNED TO BE FUNCTIONAL: In July 1997, the DPH Paramedic Division will merge with the San Francisco Fire Department. By October, the fire department will start using a pen-base computer unit on the field for capturing patient information. This method will strengthen both our data capturing ability and data validity.

STRENGTHS & WEAKNESS OF SYSTEM:

The Weakness Under Current System

1. Hospital data 10%-30% missing primary link field.
2. Validity problem with scannable PCRs.
3. Field definitions vary across databases.
4. Data incompletely collected on essential fields in all databases.

The Strengths Under Current System

1. Close to 100% data submission compliance from hospitals and ambulance providers
2. Expandability, with technological advances.

VALUABLE REPORTS: PLEASE GIVE A BRIEF DESCRIPTION AND ATTACH A SAMPLE REPORT IF POSSIBLE. Since we have data validity problems we cannot generate any usable reports. This problem should be repaired after the pen-base system takes effect.

VALUABLE DATA SYSTEM EXPERIENCES: PLEASE GIVE A BRIEF DESCRIPTION.
None. Because of data validity problems with our current database collection method.

OTHER DATA APPLICATIONS: Pen-based computer system for prehospital data collection is planned.

WORD PROCESSING PROGRAM USED & VERSION (WordPerfect, Word, Other):

COMMENTS/ SUGGESTIONS:
1. Simplify data collection.
2. Build in quality check mechanism to validate data on a frequent basis.

1999 MIS RESOURCE GUIDE

EMS AGENCY: **San Joaquin County EMS**

CONTACT(S):   Darrell Cramphorn, EMS Administrator
NAMES, TITLES&PHONES, EMAIL   Cary Parkins
ADDRESS & FAX   P.O. Box 1020
                                                        Stockton, CA 95201
                                                        Phone: (209) 468-6818
                                                        Fax: (209) 468-6725

OVERVIEW: EMS Database System Version 3.5; remote access network including agency, ALS fire, Ambulance Providers and Hospitals.

HOW DEVELOPED:(IN-HOUSE, PROPRIETARY, FUNDING SOURCE) Used public domain system, created by Mountain-Valley EMS using EMSA special project funds.

DATE IMPLEMENTED: FY 93/94.

DATE LAST UPDATED: 6/99: Scheduled events processing; improved reporting capabilities.

DATA COLLECTION METHOD(S): Keyboard data entry is done by providers and hospitals who then upload data to the agency. AMR submits EMSCAN data via disk.

DATABASE PLATFORM: Visual FoxPro 6.0 for windows.

SOFTWARE TYPE: RDBMS
VENDOR NAME: Microsoft

LINKED DATABASE?: (PREHOSPITAL, TRAUMA, BASE HOSPITAL, TRAFFIC RECORDS OR OTHER)
Prehospital, Receiving hospital.

PARTICIPATING IN STATE AGGREGATE DATA COLLECTION?(IF NOT, WHEN ANTICIPATED?) Yes.

DATABASE UTILIZATION: Supports QI efforts of Quality Liaison Council and EMS Liaison Committee.

FOR THOSE IN THE DEVELOPMENT STAGE, DATE PLANNED TO BE FUNCTIONAL:

STRENGTHS OF SYSTEM: Strong query and report capability; auto-report generating capability.
WEAKNESS(ES) OF SYSTEM: Various difficulties in trying to aggregate data from so many sources.

VALUABLE REPORTS: PLEASE GIVE A BRIEF DESCRIPTION AND ATTACH A SAMPLE REPORT IF POSSIBLE. Generation of certification expiration reports. Generation of certification cards. Many other reports generated by the system are useful for answering many different questions.

VALUABLE DATA SYSTEM EXPERIENCES: PLEASE GIVE A BRIEF DESCRIPTION.

OTHER DATA APPLICATIONS: Import programs, e.g., AMR EMSCAN, Mediflight database.

WORD PROCESSING PROGRAM USED & VERSION (WordPerfect, Word, Other): MS Word (Win95 version 6.0)

COMMENTS/ SUGGESTIONS:

EMS AGENCY:	**San Luis Obispo EMS**
CONTACT(S):	Tom Lynch, EMS Administrator
NAMES, TITLES&PHONES, EMAIL	712 Fiero Lane, #29
ADDRESS & FAX	San Luis Obispo, CA 93401
	Phone: (805) 564-8728
	Fax: (805) 546-8736
	SLOEMSA@FIX.NET

OVERVIEW: All San Luis Obispo County paramedic ambulance providers, the California Highway Patrol paramedic helicopter and two of the four paramedic fire departments, are participating in a pilot project originally designed to link patient care data collected by prehospital personnel with treatment and outcome data provided by receiving Emergency Departments. Originally, two different electronic data collection systems were used. The first to be implemented utilized customized EMS reporting software furnished by Digital Objectives running on the Newton Pen-based PDA. The second system was designed specifically for this project by AMBPAC, originally using laptop computers to collect detailed patient assessment and treatment information. Both systems permitted printing reports at the emergency departments on prehospital assessment and treatment rendered by paramedics. A central database is maintained at the EMS Agency for statistical reporting, quality improvement, and research purposes. The next phase of the project attempted to integrate emergency department treatment data from hospital computer systems into the EMS Agency database to permit tracking patient treatment and outcome from EMS response through emergency department discharge.

At the current time, the only ambulance provider that used the Digital Objectives software has converted to the AMBPAC product following the release of version two software. Efforts to link emergency department data have not been successful due to changes in how hospitals manage their data systems. The hospitals that originally agreed to attempt to download data have since changed ownership. The previous management information systems (MIS) that stored data locally have converted to a centralized download to an out-of-state location. The result is an inability to receive the data prior to the download to the corporate MIS department.

The use of laptop PCs has been curtailed, data is now entered on desktop PCs at the paramedic crew stations. Reports are then faxed to the receiving emergency department. One of the reasons for the conversion was the unacceptable delay of returning units to their duty area due to data input times.

The ultimate goal of the project remains, to link all available data from dispatch through discharge in order to assess the effectiveness of prehospital and emergency department care, and to assist in policy and procedure development.

HOW DEVELOPED:(IN-HOUSE, PROPRIETARY, FUNDING SOURCE) Design of project-specific hardware and software, and customization of proprietary products.

DATE IMPLEMENTED: Original project implemented June 1, 1995. Current project concept implemented August 1, 1996.

DATE LAST UPDATED:

DATA COLLECTION METHOD(S): Data entry by paramedics using hand held pen-base computers and laptops.

DATABASE PLATFORM: *Microsoft Access-based host database designed by AMBPAC*.

SOFTWARE TYPE:
VENDOR NAME:

LINKED DATABASE?: (PREHOSPITAL, TRAUMA, BASE HOSPITAL, TRAFFIC RECORDS OR OTHER) First Responder (ALS), Ambulance (ALS), and ED outcome.

PARTICIPATING IN STATE AGGREGATE DATA COLLECTION?(IF NOT, WHEN ANTICIPATED?) No.

DATABASE UTILIZATION: CQI, system design and management, education and training, research, and policy and protocol development.

FOR THOSE IN THE DEVELOPMENT STAGE, DATE PLANNED TO BE FUNCTIONAL:

STRENGTHS OF SYSTEM: Ease of data input by personnel with minimal computer experience and the volumes of useful data collected.

WEAKNESS(ES) OF SYSTEM: Relatively slow input times averaging approximately fifteen minutes per case. Inability to facilitate linkages as originally planned.

VALUABLE REPORTS: PLEASE GIVE A BRIEF DESCRIPTION AND ATTACH A SAMPLE REPORT IF POSSIBLE.

VALUABLE DATA SYSTEM EXPERIENCES: PLEASE GIVE A BRIEF DESCRIPTION.

OTHER DATA APPLICATIONS:

WORD PROCESSING PROGRAM USED & VERSION (WordPerfect, Word, Other):

COMMENTS/ SUGGESTIONS:

1999 MIS RESOURCE GUIDE

EMS AGENCY: **San Mateo County EMS**

CONTACT(S):   Barbara Pletz, Administrator
NAMES,TITLES&PHONES, EMAIL   Patti Lenvik, Program Coordinator
ADDRESS & FAX   225 37th Ave.
                                                              San Mateo, CA 94403
                                                              Phone: (650) 572-2477
                                                              Fax: (650) 573-2029
                                                              BPLETZ@CO.SANMATEO.CA.US
                                                              HS*PLENVIK@CO.SANMATEO.CA.US

OVERVIEW: The San Mateo County EMS Agency is in the process of developing a new electronic data collection system that utilizes the internet. Pen Computing Solutions (PCS) has been selected to develop custom software to be utilized in the field on Palm Pilots or like units. They may also assist AMR in developing the PC screens, linkages, and reporting tools. The system will eventually link EMS, Public Safety Communications PRC CAD, AMR fire first responders and hospitals. PCR data collection from the field will begin in January 2000, with the CAD interface soon after. The hospital outcome data collection process is still being discussed.

HOW DEVELOPED:(IN-HOUSE, PROPRIETARY, FUNDING SOURCE) The new ambulance contract specified that the contractor will provide an electronic data system. AMR is the current ambulance contractor and has selected PCS as the provider, with EMS Agency approval.

DATE IMPLEMENTED: Implementation is scheduled for January 2000.

DATE LAST UPDATED: N/A

DATA COLLECTION METHOD(S): Electronic PCRs on desktop computers for fire first responders and Palm Pilots for the ambulances.

DATABASE PLATFORM: We still haven't decided between Microsoft SQL 7.0 or Oracle 8i. There are advantages to both. Both have data where housing capabilities and for the size of our project, will fit our needs for scalability. Each have a type of OLAP services (online application programs) and both have sufficient security features.

SOFTWARE TYPE: Proprietary software written for San Mateo County.
VENDOR NAME: Pen Computing Solutions (PCS).

LINKED DATABASE?: (PREHOSPITAL, TRAUMA, BASE HOSPITAL, TRAFFIC RECORDS OR OTHER)
CAD, first fire responder, ambulance and hospital emergency departments.

PARTICIPATING IN STATE AGGREGATE DATA COLLECTION?
(IF NOT, WHEN ANTICIPATED?) No. Have no current functioning database or data collection methods. Plan to resume in mid-2000 after data collection has begun.

DATABASE UTILIZATION: Intended for CQI, system design, education and training, and policy & protocol development.

FOR THOSE IN THE DEVELOPMENT STAGE, DATE PLANNED TO BE FUNCTIONAL:
January 2000, first phase.

STRENGTHS OF SYSTEM: N/A

WEAKNESS(ES) OF SYSTEM: N/A

VALUABLE REPORTS: PLEASE GIVE A BRIEF DESCRIPTION AND ATTACH A SAMPLE REPORT IF POSSIBLE. N/A

VALUABLE DATA SYSTEM EXPERIENCES: PLEASE GIVE A BRIEF DESCRIPTION. N/A

OTHER DATA APPLICATIONS: N/A

WORD PROCESSING PROGRAM USED & VERSION (WordPerfect, Word, Other): N/A

COMMENTS/ SUGGESTIONS:

EMS AGENCY: **Santa Barbara County EMS**

CONTACT(S):   Nancy Lapolla, Director
NAMES, TITLES&PHONES, EMAIL   300 North San Antonio Road
ADDRESS & FAX   Santa Barbara, CA 93110-1316
                                                      Phone: (805) 681-5274
                                                      Fax: (805) 681-5142

OVERVIEW: Santa Barbara County Emergency Medical Services Agency uses a proprietary database from Lancet Technology, Inc. Information is collected on scannable forms by American Medical Response and sent to us via modem. We currently collect information only from AMR who responds to 90%+ of all ALS calls. We plan to expand our data collection capabilities to include all ALS providers this year linking information from the time of call at PSAP through Hospital Discharge.

HOW DEVELOPED:(IN-HOUSE, PROPRIETARY, FUNDING SOURCE) Proprietary software purchased through EMSA grant funds.

DATE IMPLEMENTED: June 1, 1995

DATE LAST UPDATED: N/A

DATA COLLECTION METHOD(S): Scannable forms converted to our system.

DATABASE PLATFORM:

SOFTWARE TYPE: PC-based system, windows
VENDOR NAME: Currently, Lancet Technology, Inc. This may change as we implement new system this 99/00.

LINKED DATABASE?: (PREHOSPITAL, TRAUMA, BASE HOSPITAL, TRAFFIC RECORDS OR OTHER)
Plan to upgrade prehospital system to link with emergency department and trauma system data. We anticipated establishing such a link this fiscal year - 1999/00.

PARTICIPATING IN STATE AGGREGATE DATA COLLECTION?(IF NOT, WHEN ANTICIPATED?) No.

DATABASE UTILIZATION: CQI, state reports, trauma and medical treatment, research, injury prevention, education and training.

FOR THOSE IN THE DEVELOPMENT STAGE, DATE PLANNED TO BE FUNCTIONAL:
N/A

STRENGTHS OF SYSTEM: Ability to develop ad-hoc reports.

WEAKNESS(ES) OF SYSTEM:
- C   Data needs to be converted from AMR data system into Lancet system.
- C   One-to-two month delay in receipt of current data
- C   Data only available from AMR (90% of calls), not all system ALS providers
- C   United ability to interface with other systems.

VALUABLE REPORTS: **PLEASE GIVE A BRIEF DESCRIPTION AND ATTACH A SAMPLE REPORT IF POSSIBLE.** Chest pain study to support CQI process; base hospital call volume.

VALUABLE DATA SYSTEM EXPERIENCES: **PLEASE GIVE A BRIEF DESCRIPTION.** Use of system information at various community assessment committees, including the County's Childhood Death review team meetings.

OTHER DATA APPLICATIONS: Collaboration with Drug and Alcohol program to identify trends and local needs by *Ambulance Service Areas.* Information obtained through data system is helpful for grant writing.

WORD PROCESSING PROGRAM USED & VERSION **(WordPerfect, Word, Other):** Lancet runs on windows platform.

COMMENTS/ SUGGESTIONS:
The support of EMSAAC with specific data training has been very helpful.

Links will be established from the prehospital to emergency department and trauma registry through EMS Authority grant funding this fiscal year 99/00.

We will look at the feasibility of collecting regional data: Ventura County, Santa Barbara County, and San Luis Obispo County.

1999 MIS RESOURCE GUIDE

EMS AGENCY: **Sierra-Sacramento Valley EMS**

CONTACT(S):   Leonard R. Inch or Vickie Pinette
NAMES, TITLES&PHONES, EMAIL   3853 Taylor Road, Suite G
ADDRESS & FAX   Loomis, CA 95650
                                                 Phone: (916) 652-3690
                                                 Fax: (916) 652-8067

OVERVIEW: The prehospital data collection system (EMScan) currently in use has been very successful in our region. AMR has a mirror-image of this system, making comparative data available. The software was purchased through grant funding in 1993.

HOW DEVELOPED:(IN-HOUSE, PROPRIETARY, FUNDING SOURCE) Special Projects Grant Funding.

DATE IMPLEMENTED: May 1993.

DATE LAST UPDATED: This program is continually updated. The DOS version will soon be available in the Windows format. Revisions to the scannable data sheets occurs annually.

DATA COLLECTION METHOD(S): Scannable portion of the PCR (enclosed) is downloaded from remote sites daily.

DATABASE PLATFORM: C++

SOFTWARE TYPE:
VENDOR NAME: Doug Brown, EMS Data Systems, Inc., 4141 N. Granite Reef Road, Scottsdale, AZ 85251

LINKED DATABASE?: (PREHOSPITAL, TRAUMA, BASE HOSPITAL, TRAFFIC RECORDS OR OTHER)
Trauma and currently have a project in process to link ED outcome data with prehospital data base.

PARTICIPATING IN STATE AGGREGATE DATA COLLECTION?(IF NOT, WHEN ANTICIPATED?) Yes.

DATABASE UTILIZATION: QI, Medical Control Committee, Trauma committee, helicopter utilization, medication usage, ground provider unit utilization, individual paramedic skills.

FOR THOSE IN THE DEVELOPMENT STAGE, DATE PLANNED TO BE FUNCTIONAL:

STRENGTHS OF SYSTEM: Ease of use, reliability, timeliness, cost effective.

WEAKNESS(ES) OF SYSTEM: Data collection elements must be changed on the scannable form. Due to the cost of the forms, providers are willing to make changes on an annual basis only.

VALUABLE REPORTS: PLEASE GIVE A BRIEF DESCRIPTION AND ATTACH A SAMPLE REPORT IF POSSIBLE.

Unit Utilization - provides daily and hourly unit utilization for each unit for stationing purposes, shows response times.

Medical - shows ALS and BLS skills by provider, individual, month, day, year.

Trauma - a matrix of location and type of trauma injury.

Admission - the number of patients each hospital received.

Treatment - type of skills performed.

Individual Performance - skills and medications administered by each paramedic.

Custom - allows user to pick and choose data elements individually or in combination for any time period.

VALUABLE DATA SYSTEM EXPERIENCES: PLEASE GIVE A BRIEF DESCRIPTION. This system allows the administrator to determine which data collection elements are mandatory or must trigger another element (i.e., if MVC then safety devices must be marked). The data on responses occurring one day prior are available for analysis. The software developer has successfully implemented linkages with other systems in our region. There is very little downtime in the field to complete the form and the system is very reliable.

OTHER DATA APPLICATIONS: Trauma data collection system, Collector, developed by Tri-Analytics, Inc.

WORD PROCESSING PROGRAM USED & VERSION (WordPerfect, Word, Other)**:**

WordPerfect 6.1

Word is available but not currently in use.

COMMENTS/ SUGGESTIONS:

1999 MIS RESOURCE GUIDE

EMS AGENCY: **Solano County EMS**

CONTACT(S):   Michael Frenn, EMS Administrator
NAMES, TITLES&PHONES, EMAIL   1735 Enterprise Dr., Bldg 3, MS3-110
ADDRESS & FAX   Fairfield, CA 94533
                             Phone: (707) 421-6685
                             Fax: (707) 421-6682

OVERVIEW: Dbase IV, captures approximately 60 fields per second. Pre-designed indexes and reported queries.

HOW DEVELOPED:(IN-HOUSE, PROPRIETARY, FUNDING SOURCE) In-house programmer.

DATE IMPLEMENTED: July 1, 1992.

DATE LAST UPDATED: June 10, 1994.

DATA COLLECTION METHOD(S): Manual by field providers; disc download to agency.

DATABASE PLATFORM: *Borland dBase IV*

SOFTWARE TYPE:
VENDOR NAME:

LINKED DATABASE?: (PREHOSPITAL, TRAUMA, BASE HOSPITAL, TRAFFIC RECORDS OR OTHER)
To GIS.

PARTICIPATING IN STATE AGGREGATE DATA COLLECTION?(IF NOT, WHEN ANTICIPATED?) No.

DATABASE UTILIZATION:

FOR THOSE IN THE DEVELOPMENT STAGE, DATE PLANNED TO BE FUNCTIONAL:

STRENGTHS OF SYSTEM:

WEAKNESS(ES) OF SYSTEM:

VALUABLE REPORTS: PLEASE GIVE A BRIEF DESCRIPTION AND ATTACH A SAMPLE REPORT IF POSSIBLE.

VALUABLE DATA SYSTEM EXPERIENCES: PLEASE GIVE A BRIEF DESCRIPTION.

OTHER DATA APPLICATIONS:

WORD PROCESSING PROGRAM USED & VERSION (WordPefect, Word, Other)**:**

COMMENTS/ SUGGESTIONS: Our system is nearly crashed and is in desperate need of revision.

1999 MIS RESOURCE GUIDE

EMS AGENCY: **Tuolumne County EMS**

CONTACT(S):   Dan Burch, EMS Coordinator
NAMES,TITLES&PHONES, EMAIL   1210 Sanguinetti Road
ADDRESS & FAX   Sonora, CA 95370
                                                          Phone: (209) 533-0620
                                                          Fax: (209) 533-4761
                                                          TCEMS@AOL.COM

OVERVIEW: We use EMS DataPro Version 3.5 developed by CompuCousel Consulting of Sacramento.

HOW DEVELOPED:(IN-HOUSE, PROPRIETARY, FUNDING SOURCE)

DATE IMPLEMENTED: July 1993.

DATE LAST UPDATED: Software upgrades from CompuCounsel are release about every 2 months.

DATA COLLECTION METHOD(S): CAD, PCR data entry

DATABASE PLATFORM: Visual FoxPro 6

SOFTWARE TYPE: DBS
VENDOR NAME: Microsoft

LINKED DATABASE?: (PREHOSPITAL, TRAUMA, BASE HOSPITAL, TRAFFIC RECORDS OR OTHER)
Dispatch, First Response, Ambulance, Base Hosp., Rec. Hosp.

PARTICIPATING IN STATE AGGREGATE DATA COLLECTION?(IF NOT, WHEN ANTICIPATED?) Yes.

DATABASE UTILIZATION: QA/QI, Planning, System Evaluation

FOR THOSE IN THE DEVELOPMENT STAGE, DATE PLANNED TO BE FUNCTIONAL:

STRENGTHS OF SYSTEM: Best report generator ever created for EMS including the ability to schedule Prehospital/Hospital data & certification data for unattended reporting at night.

WEAKNESS(ES) OF SYSTEM: Installation requires technical support of intermediate knowledge of Windows.

VALUABLE REPORTS: **PLEASE GIVE A BRIEF DESCRIPTION AND ATTACH A SAMPLE REPORT IF POSSIBLE.** System can report on any and all fields entered. SWADS reports are fully supported including response time and age breakdowns.

VALUABLE DATA SYSTEM EXPERIENCES: **PLEASE GIVE A BRIEF DESCRIPTION.** We have been using this product since 1993 without any difficulty.

OTHER DATA APPLICATIONS:

WORD PROCESSING PROGRAM USED & VERSION (WordPerfect, Word, Other)**:**
Word Perfect 8

COMMENTS/ SUGGESTIONS:

EMS AGENCY: **Ventura County EMS**

CONTACT(S):   Barbara Brodfuehrer, EMS Administrator
NAMES, TITLES&PHONES, EMAIL   John Mikovitz
ADDRESS & FAX   2323 Knoll Drive
                                                      Ventura, Ca 93003
                                                      Phone: (805) 677-5270
                                                      Fax: (805) 677-5290
                                                      BARBARA.BRODFUEHRER@MAIL.CO.
                                                      VENTURA.CA.US

OVERVIEW: The Ventura County Emergency Medical Services Agency is currently implementing a proprietary database from "*ScanImage*" utilizes a single form for PCR reporting and data collection, eliminating the need for duplicate reporting. Once on-line, information will be collected from prehospital (ambulance) sources. Please contact Barbara Brodfuehrer for progress on their system.

HOW DEVELOPED:(IN-HOUSE, PROPRIETARY, FUNDING SOURCE) Purchase of proprietary product.

DATE IMPLEMENTED: June 1, 1995

DATE LAST UPDATED: N/A

DATA COLLECTION METHOD(S): Standardized Scantron Forms**.**

DATABASE PLATFORM: dBASE

SOFTWARE TYPE:
VENDOR NAME:

LINKED DATABASE?: (PREHOSPITAL, TRAUMA, BASE HOSPITAL, TRAFFIC RECORDS OR OTHER) None.

PARTICIPATING IN STATE AGGREGATE DATA COLLECTION?(IF NOT, WHEN ANTICIPATED?) Yes, we have been sending data as requested.

DATABASE UTILIZATION:

FOR THOSE IN THE DEVELOPMENT STAGE, DATE PLANNED TO BE FUNCTIONAL:
STRENGTHS OF SYSTEM:

WEAKNESS(ES) OF SYSTEM: Accuracy of data entry at front end.

VALUABLE REPORTS: PLEASE GIVE A BRIEF DESCRIPTION AND ATTACH A SAMPLE REPORT IF POSSIBLE.

VALUABLE DATA SYSTEM EXPERIENCES: PLEASE GIVE A BRIEF DESCRIPTION.

OTHER DATA APPLICATIONS:

WORD PROCESSING PROGRAM USED & VERSION (WordPerfect, Word, Other)**:**

COMMENTS/ SUGGESTIONS: Currently reviewing other systems. We have found that correcting errors almost negates the functionality of the system. It takes weeks to return the forms to the provider, get them corrected and resubmitted.